

REMARKS

I. Introduction

In response to the pending Office Action, Applicants respectfully submit that all pending claims are patentable over the cited prior art for the reasons set forth below. Applicants are filing a Declaration under 37 CFR § 1.132 concurrently with this Response.

II. The Rejection Of Claims 1-3 And 5 Under 35 U.S.C. § 103

Claims 1-3 were rejected under 35 U.S.C. § 103(a), as being unpatentable over Watanabe et al. (JP 2002-319398); and claim 5 was rejected as being unpatentable over Watanabe in view of Kaneda et al. (US Pat. No. 6,638,662). Applicants respectfully traverse these rejections for at least the following reasons.

With regard to the present invention, claim 1 recites a non-aqueous electrolyte rechargeable battery comprising: (a) a positive electrode capable of charging and discharging lithium...said positive electrode contains a mixture of a first positive electrode active material and a second positive electrode active material...and said second positive electrode active material comprises $\text{Li}_x\text{Co}_{1-y-z}\text{Mg}_y\text{Al}_z\text{O}_2$ where $1 \leq x \leq 1.03$, $0.005 \leq y \leq 0.1$ and $0.001 \leq z < 0.02$,

In contrast to the present invention Watanabe discloses a mixture of a first positive electrode active material comprising $\text{Li}_x\text{Co}_y\text{M}_w\text{O}_z$, in which M is at least one of Al, Cu, Zn, Mg, Ca, Ba and Sr, and wherein $0.02 \leq w \leq 0.15$ and a second positive electrode active material comprising $\text{Li}_a\text{Ni}_b\text{M}'_c\text{O}_d$, in which M' is at least one of Co, Mn, Cr, Fe, V, or Al, and $0.02 \leq c \leq 0.5$. The second positive electrode active material of the present invention which comprises $\text{Li}_x\text{Co}_{1-y-z}\text{Mg}_y\text{Al}_z\text{O}_2$ where, $0.001 \leq z < 0.02$, falls outside the scope of both the first and the

second positive electrode materials disclosed in Watanabe, because the molar amount of Al, is less than 0.02, not equal to or greater than 0.02, as is disclosed in Watanabe.

It was alleged in the pending Office Action that claim 1 and the cited prior art are not patentably distinct because “a *prima facie* case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough that one skilled in the art would have expected them to have the same properties.” Furthermore, it was also alleged that in response to the data set forth in the specification that shows differing properties between batteries of the cited prior art and those according to claim 1 of the present disclosure, that Comparative Examples 1, 3, 6, 12 and 13 disclosed in Table 1 of the specification are not commensurate in scope because the examples either do not disclose a second positive electrode active material (claims 1 and 3) or the second positive electrode active material does not contain Mg (claims 6, 12 and 13).

In response, Applicants are submitting, concurrently with this Response, a Declaration under 37 CFR § 1.132 which contains examples of batteries that are both commensurate in scope of the claimed invention and show unexpected results.

As is shown in Table 1 and Fig. 1 of the Declaration, batteries having a second positive electrode active material within the range of the claimed invention (Battery Nos. 1-6) show superior initial capacity to batteries having a second positive electrode active material outside the range of the claimed invention (Battery Nos. 7-10). Furthermore, as can be seen from the table, the batteries include several examples having the amount of Al (Z) both within and immediately outside the range cited in claim 1. As is abundantly clear from the data, there is an unexpected and significant drop off in initial capacity when comparing batteries within the claimed range

against those outside the claimed range. Fig. 1 of the Declaration illustrates this significant drop that occurs between battery 6, having 0.018 molar ratio of Al, and battery 7, having 0.02 molar ratio of Al.

As such, Applicants assert that the data provided in the Declaration supports the prior assertion that Applicants have rebutted the presumption that a *prima facie* case of obviousness exists by showing that batteries with the claimed ranges as compared to those with the prior art ranges *do not* have the same properties.

Furthermore, Applicants direct the Examiner to MPEP § 716.02(d) entitled “Unexpected Results Commensurate in Scope With Claimed Invention” which states:

To establish unexpected results over a claimed range, applicants should compare *a sufficient number of tests* both inside and outside the claimed range to show the criticality of the claimed range. *In re Hill*, 284 F.2d 955, 128 USPQ 197 (CCPA 1960).

Applicants assert that the examples of batteries shown in Tables 1 of the Declaration, which has amounts of Al at 0.0005, 0.001, 0.005, 0.01, 0.015, 0.018, 0.02, 0.021, 0.022 and 0.025 molar ratio, represent a significant number of tests sufficient to provide support for the data already present in the specification to show the requisite data supporting the criticality of the claimed range.

Therefore, as the ranges of the elements disclosed in claim 1 are outside the scope of the prior art, AND the invention discloses unexpected and superior results over the cited prior art, AND that the Examples cited in the Declaration and specification are commensurate in scope with amended claim 1, AND the claims are supported by a sufficient number of tests both inside

and outside the claimed range to show the criticality of the claimed range, Applicants respectfully assert that the § 103 rejection of claim 1 is improper. Therefore, as Watanabe fails to render claim 1 of the present invention obvious, the rejection under § 103(a) should be withdrawn. Accordingly, claim 1 and all pending dependent claims thereon should be considered allowable.

III. All Dependent Claims Are Allowable Because The Independent Claim From Which They Depend Is Allowable

Under Federal Circuit guidelines, a dependent claim is nonobvious if the independent claim upon which it depends is allowable because all the limitations of the independent claim are contained in the dependent claims, *Hartness International Inc. v. Simplimatic Engineering Co.*, 819 F.2d at 1100, 1108 (Fed. Cir. 1987). Accordingly, as claim 1 is patentable for the reasons set forth above, it is respectfully submitted that all pending dependent claims are also in condition for allowance.

IV. Conclusion

Having responded to all open issues set forth in the Office Action, it is respectfully submitted that all claims are in condition for allowance.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper,

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including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

McDERMOTT WILL & EMERY LLP

Michael E. Fogarty
Registration No. 36,139

600 13th Street, N.W.
Washington, DC 20005-3096
Phone: 202.756.8000 MEF/NDM:kap
Facsimile: 202.756.8087
Date: April 13, 2007

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as our correspondence address.**